Paraguay lies in the central-southeast part of South America and shares borders with Argentina, Bolivia, and Brazil. It covers 406,752 km$^2$ and has two distinct natural regions: the Eastern Region, which covers approximately 40% of the national territory and has 97% of the population, as well as important water resources and arable land, and the Western Region, or Chaco, with 60% of the national territory and the remaining 3% of the population. Paraguay has no seacoast, but it does have river connections to the Atlantic through the Paraguay and Paraná rivers. Asunción is the capital city, and the country’s political/administrative divisions include 17 departments with their municipalities and districts.
Over the 2006–2010 period, Paraguay’s social and economic situation continued to improve. In 2009, the government launched Paraguay for All: A Public Policy Proposal for Social Development 2010–2020. This initiative brings together 11 programs with four concentrations: quality of life, social inclusion, economic growth without exclusion, and results-based management. In the health area, important administrative reforms have been carried out in response to the development plan, improving access to and coverage of services.

MAIN ACHIEVEMENTS

Health Determinants and Inequalities

Unemployment declined in the last decade, and was 5.7% in 2010. Between 2003 and 2008, 256,000 Paraguayans emigrated abroad (almost 1 out of 10 in the economically active population).

The principal programs of the government initiative Paraguay for All: A Public Policy Proposal for Social Development 2010–2020, which was formulated in 2009, include developing family health units and addressing the issues of water supply, sanitation services, and food security, factors that directly or indirectly help improve living conditions and health.

Paraguay has great potential for food production. Its agriculture and livestock sectors contributed 47.0% and 8.5%, respectively, to gross domestic product (GDP) growth in 2010. Given the high level of chronic malnutrition (low height-for-age), which in 2009 affected 13.7% of children under age 5, as well as 41.7% of the indigenous population, a National Food Sovereignty and Security Plan was created that year. Its objective is to address conditions of vulnerability and high indices of malnutrition and undernutrition.

The Environment and Human Security

In urban areas, the proportion of the population with access to drinking water was 77.7% in 2009, while the figure for rural areas was 59.0%. In 2011, a construction project was approved to bring water from the Paraguay River to the central area of the Chaco region in order to supply drinking water. The population with access to the sewage was 8.5% in 2009 (16.3% for urban areas compared to 0.3% in rural areas). In 2010, 39.2% of the population had waste collection services.

Health Conditions and Trends

The 2006–2010 period saw improvements in health conditions. The reduction in infant mortality (15.4 per 1,000 live births in 2009) was noteworthy.

In a period of 11 years (2000–2010) there was a 99.6% reduction in the number of malaria cases. The incidence rate dropped 95.0%, from 0.79 per 1,000

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Selected basic indicators, Paraguay, 2008–2010.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population 2010 (millions)</td>
<td>6.4</td>
</tr>
<tr>
<td>Poverty rate (%) (2009)</td>
<td>35.1</td>
</tr>
<tr>
<td>Literacy rate (%) (2010)</td>
<td>94.7</td>
</tr>
<tr>
<td>Life expectancy at birth (years) (2010)</td>
<td>72.4</td>
</tr>
<tr>
<td>General mortality rate (per 1,000 population) (2010)</td>
<td>5.5</td>
</tr>
<tr>
<td>Infant mortality rate (per 1,000 live births) (2009)</td>
<td>15.4</td>
</tr>
<tr>
<td>Maternal mortality rate (per 100,000 live births) (2009)</td>
<td>125.3</td>
</tr>
<tr>
<td>Physicians per 1,000 population (2008)</td>
<td>1.3</td>
</tr>
<tr>
<td>Hospital beds per 1,000 population (2009)</td>
<td>1.3</td>
</tr>
<tr>
<td>DPT3 immunization coverage (%) (2009)</td>
<td>72.0</td>
</tr>
<tr>
<td>Births attended by trained personnel (%) (2008)</td>
<td>93.1</td>
</tr>
</tbody>
</table>

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A Health System for All in Paraguay

Central to the Public Policy Proposal for Social Development 2010–2020, also known as “Paraguay for All,” is the quality of life of the population and its access to health services. The proposal’s first objective (Objective 1.1) is to “implement a single, universal, comprehensive, inclusive, and solidarity-based national health system with equity and social participation.” The country strives for a health care model that is universal, comprehensive, and equitable; that provides equal opportunity and treatment for people of both genders; that features broad, inclusive, and solidarity-based social participation; and that eliminates out-of-pocket health expenditure.

The health system seeks to emphasize elimination of economic barriers to health services whenever the population needs them, thus acting to reduce poverty. It also aims to make the development of primary and specialized care networks a priority, and to promote citizen participation around Family Health Units.
population in 1990 to 0.004 in 2010. Paraguay is on the way to eliminating autochthonous transmission of malaria. The incidence of all forms of tuberculosis dropped from 38.4 per 100,000 population in 2005 to 32.8 per 100,000 in 2010.

The incidence of HIV infection in 2009 was 15.1 per 100,000 population. Between 2005 and 2010, the male/female ratio remained stable, and 47% of women who received health services during pregnancy participated in the program to prevent mother-to-child transmission of HIV.

**Health Policies, the Health System, and Social Protection**

Total annual health spending underwent a gradual increase, from 7.3% of GDP in 2005 to 8.5% in 2009 (for an average annual increase of 7.6%). Private health expenditure during the period averaged 4.6% of GDP, while public health expenditure was 3.1%. Exemption from taxation on benefits and services provided by the network of the Ministry of Public Health and Social Welfare (starting in August 2008), along with the poverty reduction strategy, reduced families’ out-of-pocket expenditure for health care.

In 2008, the General Directorate of Strategic Supply Management was created to ensure efficient management of medical supplies and devices, as well as access to drugs and supplies. The national list of essential drugs was put in place, and initiatives are underway to promote the rational use of drugs and to establish the national drug formulary.

Since 2008, intersectoral work to prevent noncommunicable diseases has increased, integrating primary health care with other service levels and with the community.

The country is promoting the construction of hospitals that will be safe in disaster situations, and regards the hospital safety index as a useful tool for both structural and functional assessment of facilities.

In late 2010, the National Congress was presented with a health career proposal that was drafted with broad participation by the health sector.

The process of organizing the country’s blood donation centers began, with a view to increasing donations and guaranteeing access to safe blood.

**Knowledge, Technology, and Information**

The Ministry of Public Health and Social Welfare coordinates the strengthening and redesign of the Health Information System. It was in this context that the Strategic Plan for 2007–2011 was developed, which includes a new policy for managing information as well as information and communications technology.

In 2007, the country’s contribution to scientific publication was very low in comparison with the rest of the Southern Cone. In response, the National Council of Science and Technology made efforts to promote health research and innovation between 2007 and 2011. Of all sectors, the health sector contributes to the greatest number of international publications, and it has 104 researchers, constituting 23% of the country’s total researchers. In 2010, the Ministry of Public Health and Social Welfare launched a national health research strategy.

**Main Challenges and Prospects**

Approximately one out of four households includes at least one older adult. The country will face the challenge posed by an increase in the population age 60 and over, which is estimated to grow from 7.1% in 2000, to 11.6% in 2025, and to 18.5% by 2050.
In 2009, slightly over one-third of the Paraguayan population was poor (35.1% nationwide, but 49.8% in rural areas), while 18.8% lived in extreme poverty (32.4% in rural areas). Between 2005 and 2006, overall poverty rose from 38.6% to 43.7%, but it dropped steadily through 2009, primarily as a result of a decline in urban areas.

In 2010, the illiteracy rate stood at 5.3% (3.5% in the urban population and 8.1% in the rural). Illiteracy among men was 4.6% (3% in urban areas and 6.8% in rural), and 5.9% among women (3.9% in urban areas and 9.5% in rural). Close to 2% of the population is indigenous, and 91.5% of that population segment is rural.

In 2010, there was an estimated housing shortage of 99,000 dwellings (73% in urban areas), while another 705,000 were in need of improvement or expansion (54% in rural areas). One percent of landowners hold 77% of the arable land, while the 40% of farmers who own between 0 and 5 hectares possess only 1% of the agricultural land. Most Paraguayans consider land reform an unresolved issue.

Between 1945 and 2000, the forested area in eastern Paraguay was reduced from 55% of the region’s total area to 5%. The massive use of firewood and charcoal for household consumption (43.4% of households) has contributed significantly to deforestation.

Fire and drought are the principal disasters that cyclically affect Paraguay. Climate change is expected to aggravate this. Between 2007 and 2010, the national government had to mobilize resources to address the effects of the droughts that impacted the Chaco region.

Maternal mortality has remained stable at a high level in recent years and continues to be an important challenge. In 2009 there was a rate of 125.3 maternal deaths per 100,000 live births. A third of maternal deaths were due to complications from unsafe abortions (abortions performed under dangerous conditions).

Noncommunicable diseases are responsible for the majority of mortality and morbidity in Paraguay. In 2011, the incidence of hypertension was 32.2% (women accounted for 37.9%), 9.7% of the population had diabetes (11% women), and 21.5% had high cholesterol (23.1% women).

In 2009, the mortality rate due to diseases of the circulatory system was 111.5 per 100,000 population, mortality from neoplasms was 56.0 per 100,000, death from external causes was 49.2 per 100,000, and mortality from infectious diseases was 35.1 per 100,000. As regards years of potential life lost, external causes ranked number one in 2009, both for the population as a whole and for men.

Ischemic heart disease caused 10.2% of deaths among men in the 2006–2009 period, followed by cerebrovascular disease (9.5%) and motor vehicle accidents (7.4%). For women, the leading cause of death was cerebrovascular disease (12.8%), followed by diabetes (10.8%) and ischemic heart disease (9.2%). In 2011, the prevalence of tobacco consumption in the 15- to 74-year-old population was 22.8% among men and 6.1% among women.

The health system still has structural elements that need to be improved. Health insurance coverage is low and is concentrated in Asunción and the Central Department. Social security covers 17% of the economically active population. In 2008, barely 12.2% of the indigenous population had health insurance.

The social protection services in the health area are segmented and highly fragmented.

Structural problems persist in the area of human resources. A lack of labor regulation allows for different types of contracts, varying workloads (hours), poor distribution of the workforce, and training that is not adequate given the requirements of the care model.

The National Council of Science and Technology leads the process of encouraging health research and innovation, as well as promoting more international publication. Meeting challenges in this area involves a range of national entities, including technical, financial, and academic institutions.

There are still major gaps in some health determinants. Paraguay has unresolved public health problems in areas such as maternal mortality, dengue epidemics, cervical cancer, availability of blood, and absence of a solid human resources policy, to mention only a few. Their common denominator is lack of access to health services and quality of service.

The process of change that began in 2008, which provides for free health care and access to primary care for over 2 million Paraguayans, faces key challenges if it is to be successful. Achieving effective intersectoral and community participation in decision-making on health issues is paramount. Success on this front will pave the way to ensuring that an approach is in place that takes account of the social determinants of health, and that engages full social participation of the population. In addition, it is crucial to ensure that there is sufficient financing to make the structural changes that public health in the 21st century requires.